PATENT CLAIMS

1. Glass-ceramic, comprising beta-quartz and/or keatite solid solutions having a surface roughness without polishing of Ra < 50 nm, a thermal expansion in the temperature range between 20°C and 300°C of < 1.2 • 10^{-6}/K, a transmission in the near infrared region at 1050 nm of > 85% for a thickness of 4 mm, and a composition in % by weight, based on the total composition, containing:

Li_2O	3.0-5.5
Na_2O	0-2.5
K_2O	0-2.0
Σ Na_2O+K_2O	0.5-3.0
Σ MgO+ZnO	< 0.3
SrO	0-2.0
BaO	0-3.5
B_2O_3	0-4.0
Al_2O_3	19.0-27.0
SiO_2	55.0-66.0
TiO_2	1.0-5.5
ZrO_2	0-2.5
Σ TiO_2+ZrO_2	3.0-6.0
P_2O_5	0-8.0
Fe_2O_3	< 200 ppm
F	0-0.6

and, if appropriate, at least one refining agent, such as As_2O_3, Sb_2O_3, SnO_2, CeO_2, sulphate and chloride compounds.

2. Glass-ceramic according to Claim 1, comprising beta-quartz solid solutions as the main crystal phase, having a thermal expansion in the temperature range between 20°C and 300°C of < 0.5 • 10^{-6} K, a transmission in the near infrared

region at 1050 nm of > 87%, preferably > 89% for a thickness of 4 mm, and a composition in % by weight, based on the total composition, containing:

Li_2O	3.0-5.5
Na_2O	0-2.0
K_2O	0-1.5
Σ Na_2O+K_2O	0.5-2.5
Σ SrO+BaO	< 4.0
Σ TiO_2+ZrO_2	3.5-5.5
Σ $B_2O_3 + P_2O_5$	1.0-8.0
Fe_2O_3	< 130 ppm
F	0-0.3

and, if appropriate, at least one refining agent, such as As_2O_3, Sb_2O_3, SnO_2, CeO_2, sulphate and chloride compounds.

3. Glass-ceramic according to Claim 1, having a composition in % by weight, based on the total composition, containing:

Li_2O	3.0-5.0
Na_2O	0-2.0
K_2O	0-1.5
Σ Na_2O+K_2O	0.5-2.0
Σ SrO+BaO	< 3.0
B_2O_3	0-3.0
Al_2O_3	21.0-27.0
TiO_2	1.5-5.5
Σ TiO_2+ZrO_2	3.5-5.0
Σ $B_2O_3 + P_2O_5$	1.0-8.0

and, if appropriate, at least one refining agent, such as As_2O_3, Sb_2O_3, SnO_2, CeO_2, sulphate and chloride compounds.

4. Glass-ceramic according to Claim 1, having a composition in % by weight, based on the total composition, containing:

Li_2O	3.5-5.0
Na_2O	0-2.0
K_2O	0-1.5
Σ Na_2O+K_2O	0.5-2.5
Σ SrO+BaO	1.0-4.0
Al_2O_3	20-25
SiO_2	55-63
TiO_2	1.5-5.5
ZrO_2	0-2.0
Σ TiO_2+ZrO_2	3.5-5.0
P_2O_5	1.0-8.0
Σ $B_2O_3+P_2O_5$	2.0-8.0

and, if appropriate, at least one refining agent, such as As_2O_3, Sb_2O_3, SnO_2, CeO_2, sulphate and chloride compounds.

5. Glass-ceramic according to at least one of Claims 1 to 4, in which the mean crystallite size is < 300 nm, preferably < 80 nm.

6. Glass-ceramic according to at least one of Claims 1 to 5, which on the surface has a vitreous layer, which is up to 1.5 µm thick, with increased Na_2O, K_2O and/or SrO, BaO contents, and the increase in the surface roughness during the ceramicization of the glass-ceramic compared to the starting glass is less than 10 nm, preferably less than 5 nm.

7. Glass-ceramic according to at least one of Claims 1 to 6, additionally containing at least one coloured oxide which absorbs in the visible region but does not absorb or absorbs only to a slight

extent in the near infrared region, preferably V_2O_5.

8. The glass-ceramic as claimed in at least one of Claims 1 to 7, which has a high temperature/time load-bearing capacity with regard to compaction of < 60 µm/100 mm after conditioning at 600°C, 200 h.

9. Glass-ceramic according to at least one of Claims 1 to 8, which has a high IR transmission of > 85%, preferably > 87%, for a thickness of 4 mm, in the wavelength range between 900 nm - 1800 nm.

10. Glass-ceramic according to at least one of Claims 1 to 9, in which the light transmission of the glass-ceramic is > 50%, preferably > 85%, for a thickness of 4 mm.

11. Glass having a composition in accordance with at least one of Claims 1 to 4.

12. Glass according to Claim 11, which has a thermal expansion in the temperature range between 20°C and 300°C of $< 5 \cdot 10^{-6}/K$, preferably of $< 4.5 \cdot 10^{-6}/K$ and a transformation temperature Tg of > 600°C.

13. Glass according to Claim 11 or 12, which has an IR transmission of > 85%, preferably > 87%, for a thickness of 4 mm, in the wavelength range between 900 nm - 1800 nm.

14. Glass according to Claim 11 or 12, which has a light transmission of > 85% for a thickness of 4 mm.

15. Reflector having an inner contour which approaches one or more parabolas, containing glass and/or

glass-ceramic according to at least one of Claims 1 to 14.

16. Reflector according to Claim 15, which has an IR-transmitting mirror coating, which preferably contains layer sequences of various oxide layers with different refractive indices, such as SiO_2/TiO_2.

17. Process for producing a vitreous substrate material, which can be converted into a glass-ceramic comprising beta-quartz and/or keatite solid solutions, for coating with a mirror coating, the shaping taking place via a feeder, in which a molten drop of defined weight is added to a pressing die, and the parabolic contour of the substrate material is pressed using a ram with a smoothed surface.

18. Process according to Claim 17, in which the conversion of the pressed vitreous substrate material into the glass-ceramic containing beta-quartz solid solution as the main crystal phase takes place at nucleation temperatures of 630°C to 750°C, for a duration of > 15 min and the crystallization takes place at temperatures of 700°C to 850°C for a duration of > 30 min.

19. Process according to Claim 17, in which the pressed vitreous substrate material is converted into a glass-ceramic with keatite solid solution as the main crystal phase at temperatures of from 780°C to 1000°C.

20. Use of a glass or a glass-ceramic according to at least one of Claims 1 to 19 as substrate material for coating in which, on account of a high

luminous power, a high radiant heat combined with temperature differences has to be tolerated.

21. Use according to Claim 20, as a reflector, in particular a cold-light reflector, substrate material for a mirror coating and supplementary plate in illumination engineering.